EPA Proposed Rule 111(d) – Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

40 CFR Part 60

EPA-HQ-OAR-2013-0602; RIN 2060-AR33

Schedule

Comments due to EPA October 16th, expect final rule by June 1, 2015.
State Plans due by June 30, 2016 (initial plan) with final Plan due by June 30, 2017; Multi-state Plans due June 30, 2017 for initial and June 30, 2018 for final Plan. EPA has 1 year to review.

Purpose

Reduce carbon dioxide (CO_2) emissions from electric utility generating units (EGUs) through Plans by states or groups of states. Indian country or territories are not included, may be later.

Key Provisions of Proposal

Sets state-by- state targets with flexibility on how to meet intensity-based standards. Option to convert to mass is allowed. Targets vary greatly. CA target for 2030 = 537 lbs CO_2 /net MWh; other states greater than 1,700 lbs CO_2 /net MWh. Only a few states have lower targets than CA.

Best System Emission Reductions (BSERs) based on strategies already in place, such as specific emission standards, switching to lower emitting fuels or units, utilization rates for EGUs, market programs, Renewable Portfolio Standards (RPS), energy efficiency (EE) and Demand Side Management (DSM) programs. (pg 29)

BSERs are combinations of 4 building blocks (blocks) which are based on what is reasonable to achieve.

1. Heat rate improvements (6% improvement in average heat rate for coal)
2. Selective dispatch for cleaner units (70% target utilization rate)
3. Substitute generation by low- or zero-carbon generation, rely on existing and planned new nuclear + RPS
4. DSM (1.5% annual savings each year 2020-2029)

Other techniques can also be used, and multi-state efforts are acceptable. Strategies NOT considered for targets but that could be used to comply include: carbon capture and sequestration (CCS), fuel switching at individual EGUs, adding new nuclear that is not currently planned, and heat rate improvements for non-coal EGUs. (pg 237)

EPA is seeking comment on each of the blocks and also on two different options upon which to base the overall reductions: (pg 36, 119, 351):

Option 1 (BSERs from blocks 1-4): 30 % reduction in CO_2 by 2030 from 2005 levels; interim goals for 2020-2029
Option 2 (BSERs from blocks 1&2 only): 23 % reduction in CO_2 by 2025 from 2005 levels; interim goals for 2020-2025

Interim target is the average for each of the years 2020-2029. 2030 and beyond is the same annual target. EPA reports a 15.7% decrease in GHG emissions from EGUs from 2005 to 2012, mostly from coal, also increased use of natural gas.

The proposal also establishes guidelines for a SIP-like submittal process and annual reports by each state or multi-state group. In addition, every two years a detailed progress report is required.

State Plan Requirements

Individual State Plan due: June 30, 2016 – can be interim Plan with final Plan June 30, 2017 if need more time to get legislative approval or rulemaking (pg 374)
Multi-state Plan due: June 30, 2017 – can be interim Plan with final Plan June 30, 2018

Must have a public hearing on Plan
Portfolio approach is OK, can have elements for EGUs and other strategies
Modifications to Plans are allowed if no backsliding

Approval process:

- EPA will respond to an extension request within 60 days
- EPA will approve or disapprove Plan within 1 year through a notice and comment rulemaking; seeking comment on partial approval/partial disapproval option
- EPA will do the Plan for a state if no Plan prepared or Plan is not approved

Reports:
EGUs - Report annually and data must be reported electronically to EPA and to states. Data must be available to EPA and the public. Annual reports with details per facility and per unit for EGUs

States - every 2 years a progress report by the state/states is due on the Plan. Plans must contain milestones and corrective measures if not within 10% of projection (EPA seeking comment on whether this should be 8%). Plans can be 'self correcting', with adopted measures that will kick in automatically OR can have a schedule for adopting additional measures. If milestones are not met, a report is required with an explanation of how it will be corrected.

3 issues that EPA is seeking comment on:

1. EGUs can meet targets OR targets can be met from reductions through other means
2. Who is responsible to meet the target?
3. Are measures federally enforceable (yes, per EPA, but asking for comment)

Criteria for Plan approval (EPA will develop guidelines):

1. Enforceable measures to reduce CO_2
2. Projection demonstrates reductions greater than or equal to the target, on time
3. Measures are quantifiable and verifiable (harder to do for EE and DSM)
4. Adequate process for reporting (EGUs must have monitoring, recordkeeping and reporting (MRR) requirements)

No offsets allowed for out-of-sector reductions, unless the source is in a cap-and-trade program

Required elements for approval:

1. Identification of EGUs and other entities
2. Approach and geographic scope
3. Identification of performance level – rate or mass (show calculations); individual or multi-state
4. Demonstrate the goals will be met, describe modeling
5. Milestones – self correcting? (cap-and-trade not considered self correcting)
6. Corrective measures if not self correcting Plan
7. Identify standards, measures and what facilities have to comply; process to enforce, schedule, averaging time has to be 12 months or less
8. Each standard has to be quantifiable, non-duplicative, permanent, verifiable and enforceable; foundations for MRR requirements and limits (EPA will produce guidance for EE, renewable energy, and DSM)
9. Identify the MRR requirements; must retain records for 10 years
10. State reporting requirements
11. Certification of public hearing; list of witnesses, summary of comments
12. Supporting material, including legal authority

Relationship with Other Rules

Sources would be subject to NSR, Title V, and other federal rules.

NSR - EPA states not much impact on NSR expected, could add synthetic minor limits to permits. EPA seeking comment on whether to say NSR does not apply if a facility is complying with this rule.

Title V - There will be a one-time fee decrease for GHG fees, but that is not part of this proposal. Proposal states that Title V permits will need to include requirements.

MATS – EPA states programs can co-exist, and they will work to harmonize

Cost/Benefit of Proposal

Option	Costs in 2030	Climate and Health Benefits
1	$7.3-8.8 billion	$55-95 billion
2	$6.8-9.8 billion	$32-63 billion

MRR costs not included, costs do not consider savings for multi-state programs

- Many other co-benefits quantified (but not toxics) (pg 546)
- Energy prices forecast to increase 3% by 2030, but residential bills will decrease by 9%
- Natural gas prices projected to increase 9-12% by 2030
- Coal prices projected to decrease 16-17% and use to decrease 30-32% by 2030

Topics for CAPCOA Discussion

POLICY

1. *CARB needs to make sure this program works with cap-and-trade and other CA programs. CARB should comment on the base for the start date and how existing programs are taken into account(pg 474)

2. Option 1 or 2 – recommend support the more stringent option, which is Option 1

3. *EPA seeking comment on whether to allow reductions for transmission and distribution efficiency, partial CCS biomass, new natural gas units, fuel switching, electricity storage, combined heat and power (CHP) – CAPCOA should support a broad range of options to encourage development and deployment of clean energy fuels and technologies. (pg 502)

4. *EPA seeking comment on whether facilities complying with this rule should not be subject to NSR – CAPCOA should comment that it is NOT appropriate to exclude EGUs from NSR (pg 532)

5. EPA seeking comment on stakeholder proposals for interstate emission trading, equivalency tests for states, and power –plant specific requirements.

6. 10 year record retention seems long

7. Co-benefits of toxics not evaluated, but mentioned very briefly, could expand on this

TECHNICAL

1. *Make enforceable through permit conditions on Title V permits (proposal says that will be required)

2. EPA is asking for comments on the form of the standard, and if the standard should be net or gross

3. *How will electronic reporting work? Can existing GHG system that CARB has suffice?

4. EPA plans to develop guidance in a number of areas, which increases uncertainty. For example, calculations for EE and RE (pg 484); may limit to decreases within the state for EE to avoid double counting

5. EPA assumes 55% utilization rate for future power plants – is that reasonable?

PROCESS

1. *Annual reports and progress reports are required every two years for GHG reductions, when criteria pollutant SIP updates and Reasonable Further Progress reports are required with less frequency. This will be a lot of work for the state, which may need data and support from local districts. EPA is asking for comments on a 5 year progress report, which would be better.

2. *EPA seeking comment on the need for a Plan update in 2025 – recommend NO, unless that is a progress update and future projection in lieu of the annual reports and biannual progress reports.

3. *If milestone missed by 10% (or 8%), then it triggers a report and further actions. EPA is asking for comments on the percentage. EPA is seeking comment on how to make up for reductions missed in milestones, and is seeking comment on a process that would be SIP-like. This seems like a lot of work, and could be excessive. Suggest CAPCOA comment that the milestone missing should be 10% at minimum, and averaged over three to five years.

4. Public hearing – listing witnesses and summarizing comments – is that required for SIPs? Seems excessive.

5. EPA asking for comments on setting targets beyond 2030 and suggested that this be done on an 8-year review cycle, similar to other federal regulations. (seems appropriate)